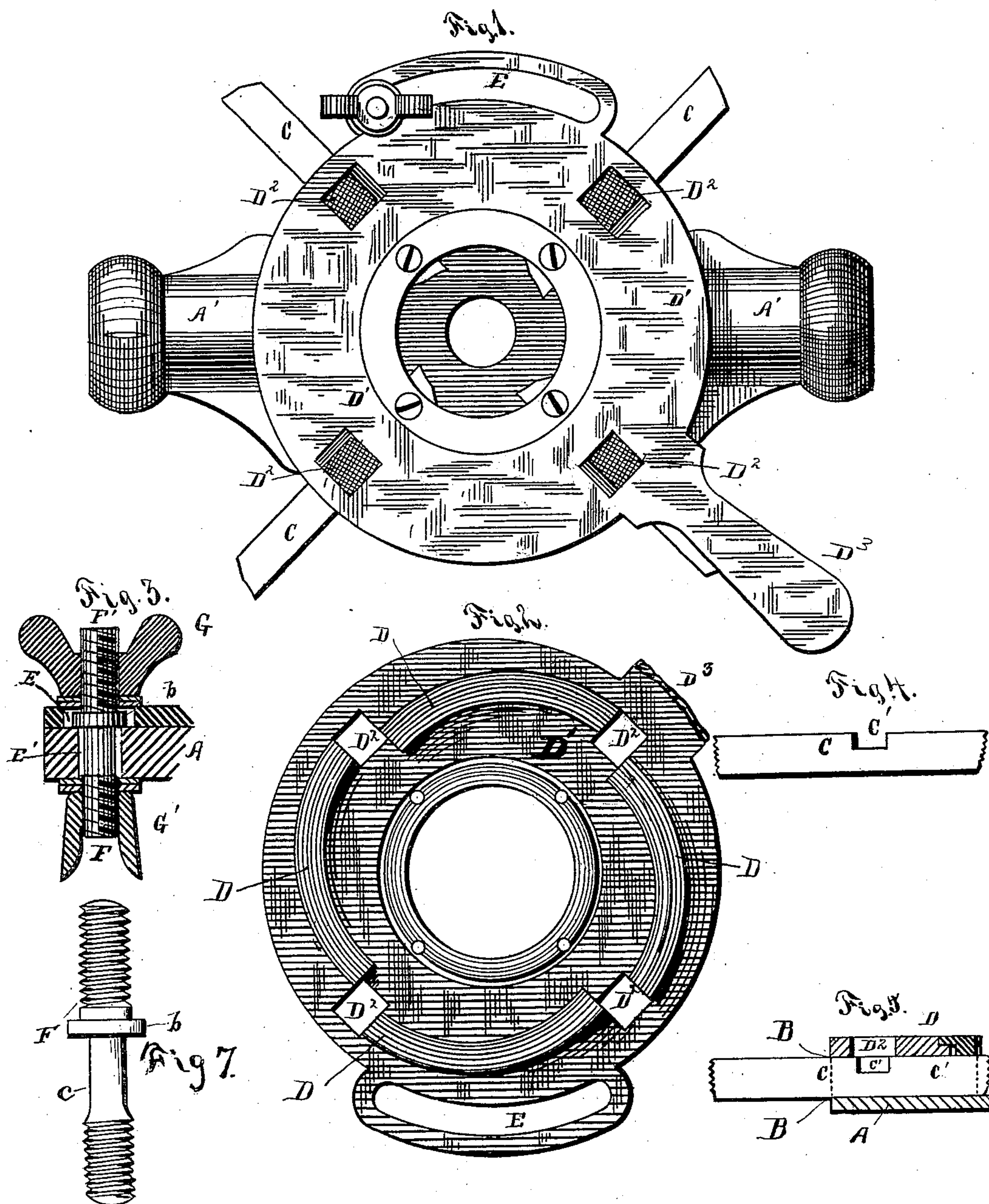


J. C. WILLIAMS.
Device for Cutting Screw-Threads.

No. 228,429.

Patented June 1, 1880.



WITNESSES

Frank M. Faber.
W. C. Donnelly

INVENTOR

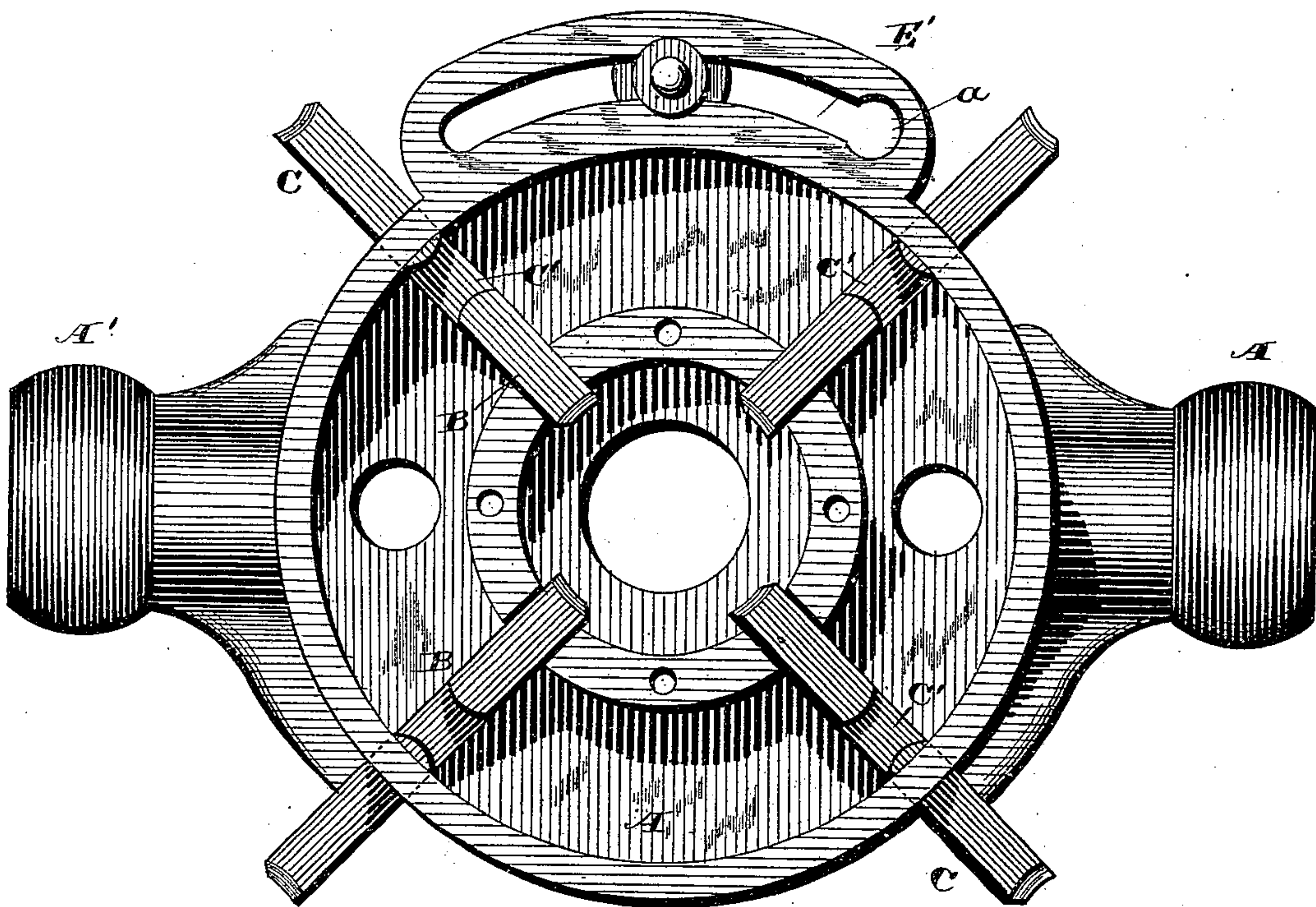
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Fig. 6.



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UNITED STATES PATENT OFFICE.

JAMES C. WILLIAMS, OF CLEVELAND, OHIO.

DEVICE FOR CUTTING SCREW-THREADS.

SPECIFICATION forming part of Letters Patent No. 228,429, dated June 1, 1880.

Application filed October 6, 1879.

To all whom it may concern:

Be it known that I, JAMES C. WILLIAMS, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Devices for Cutting Screw-Threads; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to a manual device for cutting screw-threads; and it consists of the parts and combination of parts hereinafter described and claimed.

In the drawings, Figure 1 represents a plan view of my device; Fig. 2, a view of the top plate removed and turned over, so as to expose its cams. Fig. 3 is a section through the slot and set-screw portion of my device. Fig. 4 is a detached view, showing, in longitudinal section, one of the dies with its cutting-thread upon each end. Fig. 5 is a section of the case, showing one of the grooves in which the dies move. Fig. 6 is a detail plan view of the case with the top plate removed and showing the dies in position. Fig. 7 is a detail view of the bolt.

In the said drawings, A is the main body of the case, which is provided with projections A', for the attachment of handles to revolve the device in cutting screw-threads. B are slots or grooves formed in the case A, through which slide dies C, which may be of any suitable number, character, or material. These dies, as shown in Fig. 4 of the drawings, have screw-cutting surfaces on each end, and these may either be of the same kind or of different kind, to suit different gages and characters of screw-thread.

Between the ends of each die C is formed a groove or recess, C', designed to engage with cams D, provided upon the inner face of the plate D'.

At the forward end of each cam D is an opening, D², made through plate D' and in line with said cam. Through these openings the operator may look in order to adjust the dies so that the forward ends of the cams may

respectively enter the transverse grooves C', formed in said dies.

The plate D' is constructed to revolve upon the case A, and for this purpose, if desired, any suitable handle, D³, for manipulating the plate D', may be provided. In association with the plate D' is a circular slot, E, formed on the arc of a circle concentric with the axis of rotation of the plate D'. Below the circular slot E is a corresponding slot, E'. The slot E', however, is made narrower than the slot E, for purposes which will hereinafter appear, and this slot E' is formed in the case A.

The extremities of a bolt, F, project from the slot of the face-plate and the slot of the case. These extremities are screw-threaded, and clamping devices G G' respectively engage therewith. The slot of the case is made wider at any suitable point, as shown at a, in order to permit the bolt to be introduced in or removed from said slot. The bolt is formed with a shoulder, b, which fits loosely in the slot of the face-plate and has bearing against the case. It is also provided with an angular portion, c, which fits in the slot of the case, so that the bolt cannot be rotated therein. When clamping device G' is tightened the shoulder of the bolt is drawn in close bearing against the case, and the bolt is firmly held at the desired point within the slot of the case.

By loosening clamping device G the face-plate may be independently adjusted in rotary movement on the case. It is therefore apparent that by loosening clamping device G' the bolt may be moved to any suitable point in the slot of the case, and by then tightening said clamping device G' the bolt will be securely maintained at said point. The bolt, therefore, serves as an adjustable stop for controlling the rotary movement of the face-plate.

When both clamping devices G G' are tightened the face-plate and case are locked together.

The operation of my device may be described as follows: When the clamping devices G G' are loosened the plate D' may be rotated upon the case A at pleasure, limited only by the lengths of the slots E E'. By this rotation the engagement between the cams D

and dies C will cause said dies to move in or out, according to the direction that the plate D' is rotated. Thus by moving the plate D' the dies C may be made to approach to correspond with any diameter of pipe upon which a screw-thread is desired to be formed; and for the purpose of facilitating the use of my device a graduated scale may be formed, that will indicate to the eye any suitable adjustment for any particular diameter of thread to be cut.

When a large amount of work of one kind is to be done—as, for instance, if a number of one-inch pipes were to have threads cut upon them—the dies would be properly set to cut that thread. The lower fastening device or thumb-screw G' would then be set so as to hold the bolt in such a position as to limit the throw of the plate D' in such a manner as to prevent the dies C from being thrown together any nearer than necessary to cut the thread upon an inch pipe. When the thread is cut, however, the plate would be permitted to be rotated in such a manner as to free the dies from the pipe and permit the pipe to be withdrawn. Then all that would be necessary in adjusting my device to the following pipe would be to move the plate D' forward to its

limit as governed by the bolt in the slots E E', then to set the clamping devices G G' and proceed with the work.

What I claim is—

1. In a screw-cutter, a cam or face plate formed with an opening, D², at the end of each cam, through which the operator may look in order to adjust the dies so that the forward ends of the cams may respectively enter the transverse grooves formed in said dies, substantially as set forth.

2. In a screw-cutter, the combination, with a face-plate provided with a wide slot and a case provided with a narrow slot, of a bolt passing through both slots, and formed with a shoulder which fits in the wide slot and bears against the end wall of the narrow slot, and clamping devices which engage respectively with the projecting extremities of said bolt, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES C. WILLIAMS.

Witnesses:

JNO. CROWELL, Jr.,
WILLARD FRACKER.